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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/937,905 | 10/01/2001 | Shiken Sha | 0230-0169P | 5513 |
| 2292 | 7590 | 03/08/2004 | EXAMINER | |
| BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747 | | | KEMMERER, ELIZABETH | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1646 | |

DATE MAILED: 03/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|--|---|-----------------------------------|--|
| <p align="center">Office Action Summary</p> | Application No. 09/937,905 | Applicant(s) SHA ET AL. | |
| | Examiner Elizabeth C. Kemmerer, Ph.D. | Art Unit 1646 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-28 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1, 2, 5, 6, 9, 11, 12, 18-21 and 24 (in part), drawn to a mouse gene, the encoded protein, and a method of screening use same.

Group II, claim(s) 3-6 and 10-12 (in part), drawn to human gene and the encoded protein.

Group III, claim(s) 7 and 8, drawn to nucleic acid comprising small mouse gene fragments.

Group IV, claim(s) 13 and 14, drawn to nucleic acids comprising small human gene fragments.

Group V, claim(s) 15-17 and 24 (in part), drawn to antibody to a mouse protein and pharmaceutical composition comprising same.

Group VI, claim(s) 22-25 (in part), drawn to substance obtained by screening and a pharmaceutical composition comprising same.

Group VII, claim(s) 24 (in part), drawn to gene therapy compositions.

Group VIII, claim(s) 26-28 (in part), drawn to method of diagnosis, prevention or treatment using a gene.

Group IX, claim(s) 26-28 (in part), drawn to method of diagnosis, prevention or treatment using a protein or receptor.

Group X, claim(s) 26-28 (in part), drawn to method of diagnosis, prevention or treatment using a substance.

Art Unit: 1646

The inventions listed as Groups I-X do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: The special technical feature of the first claimed invention is SEQ ID NO: 2, as this defines the contribution over the art. The special technical feature is not shared by Group II, since this recites a different sequence, which itself defines a separate contribution over the art and requires its own search of the sequence and literature databases. The special technical feature of Group I is not shared by Group III, since Group III is directed to diverse sequences having only small pieces in common with the sequence of Group I. The small sequences recited in Groups III and IV embedded in a nucleic acid or protein of indeterminate length defines its own contribution over the art and requires their own searches of the sequence and literature databases. Neither the antibody of Group V nor the "substance" of Group VI has the structure which is the special technical feature of Group I. They are distinct products requiring their own searches of the structural and literature databases. The methods of Groups VIII-XI represent methods of using the recited products in addition to the method included in Group I. The PCT Rules provide for the examination of one product, a method of using that product, and a method of making that product, but not for examination of multiple methods in one application.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

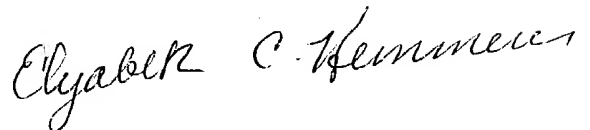
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth C. Kemmerer, Ph.D. whose telephone number

is (571) 272-0874. The examiner can normally be reached on Monday through Thursday, 7:00 a.m. to 5:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne L. Eyler, Ph.D. can be reached on (571) 272-0871. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ECK

A handwritten signature in black ink, reading "Elizabeth C. Kemmerer". The signature is written in a cursive, flowing style.

ELIZABETH KEMMERER
PRIMARY EXAMINER